Eawag strengthens its position in Western Switzerland

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Eawag plays a key role in bridging between theory and practice. To strengthen its connection with the engineering sector in Western Switzerland (Romandie), Eawag has created a new group leader position within the Process Engineering Department. We interviewed the new group leader Nicolas Derlon on the possibilities and challenges of wastewater treatment in Western Switzerland. (Stephanie Engeli)

Nicolas Derlon, your new role focuses on Eawag's position in Western Switzerland.
Exactly; the main objective of my new role is to strengthen and expand Eawag's links with the engineering sector in Western Switzerland, particularly in the field of wastewater treatment. Most importantly, we at Eawag want to make sure that if there is a need for support, our potential partners know we are available to support them in the first place. We are talking about any interested partner with specific needs in the field of wastewater treatment, e.g. municipal and cantonal authorities, engineering companies, operators or associations. Moreover, for our research it's very important to develop contacts with the people from the engineering practice. This is how we are able to better focus our research. So, overall, visibility is key for my new role. In practical terms, as a first step this means being physically present; I've set up a second office at EPFL in Lausanne, where I spend at least one day a week.

.. so this is the start of Eawag cooperating more closely with French-speaking Switzerland?
Not at all! Eawag has always been working in and with the Western part of Switzerland. In the past, the Process Engineering department has worked closely with different partners in the field of wastewater treatment, e.g. in the advancement of new technologies or direct support through expert consulting. There are several projects currently ongoing in the field of micro pollutants, anammox and aerobic

granules. But over the past few years, the extent of the need for support in the field of wastewater treatment has grown considerably.

«Eawag has always been working with Western Switzerland. But over the past few years, the need for support has grown considerably.»

Is that due to the revised regulations of the Water Protection Ordinance of 2016?
The revised Water Protection Ordinance, which came into force January 2016, could certainly be one of the reasons why the demand for support has grown so much within this short space of time. The Water Protection Ordinance requires Swiss municipalities to implement technical measures to remove micropollutants in specific wastewater treatment plants. In creating my new role within this short period of time, Eawag has demonstrated its outstanding flexibility, which I think is great.

.. but wouldn't this revised regulation affect every region of Switzerland?
It affects every region in Switzerland, but the Western part is particularly affected. Before this revision of the regulation, there were quite a few wastewater treatment plants (WWTP) in Western Switzerland which were not required to carry out nutrient removal. If they now have to remove micropollutants, they have to completely rethink their wastewater management. One example is Canton Vaud, which had a high number of small treatment plants, but now wants to aggregate everything into 16 big WWTP. This revised regulation involves and affects every stakeholder in the field of wastewater treatment: authorities, engineering consulting companies and operators. So people are starting to have questions, and this is where we step in.

«Western Switzerland is completely rethinking their wastewater treatment plants. This is where people are starting to have questions, and where we step in.»

What can potential partners expect from you?
We are here to respond to the demand for support. The possibilities are very broad and can include working on specific projects with partners from science or industry, providing expert advice to engineering companies or in the context of pilot tests at a wastewater treatment plant, or simply communicating about the current state of the art in the field of engineering. For example, we had an engineering company who wanted to learn about the benefits of dynamic modelling for designing and understanding WWTP. With the help of a case study, we've shown them what their possibilities are in this field. In cases where I personally don't have the expertise, I establish the link to the right person within Eawag.

You started with your new mission at the beginning of this year. What are your current areas of

emphasis?
As the Swiss Federal Institute of Aquatic Science it is important for us, to bring our knowledge to all parts of Switzerland. Right now, the first step is to identify the different partners and get to know each other. Together with the Swiss Water Association (VSA) Romandie we are discussing about a one-day conference. During this conference, researchers from the Process Engineering department of Eawag would communicate about their recent research projects, e.g. mainstream anammox, aerobic granular sludge, control and monitoring, etc. There will also be two workshops taking place in autumn 2017 at which I will be present (e.g. Symposium Eaux Usées on Sept 26th organised by Wilo Schweiz AG). Research-wise, I am currently working with others on a joint Swiss National Science Foundation (SNSF) funded project on aerobic granular sludge, together with Eberhard Morgenroth (Process Engineering Department head) and Christof Holliger from EPFL. We have one PhD student at Eawag and two PhD students at EPFL. What's also very important for us, as I mentioned at the beginning, is that we ourselves get a lot of inputs from practitioners in the engineering field. It is our concern to undertake valuable and relevant research, which is helping people to make their jobs and the environment even better. In cultivating closer links with them, our research benefits too.

«It is very important for us to get inputs from practitioners, because this is the way to better define our research and make it more relevant.»

About Nicolas Derlon
Nicolas Derlon holds a PhD from the University of Toulouse (France) on the topic of mechanisms of nitrification failure in moving bed biofilm reactors. He then worked at the Advanced Water Management Centre (University of Queensland, Australia) on the control of anaerobic biofilm formation in sewer networks. Nicolas Derlon joined Eawag and ETH Zurich in 2009. Since then he has worked on several projects such as aerobic granular sludge for municipal wastewater treatment, sludge reduction, membrane biofouling, and modelling of wastewater treatment plants. At the beginning of 2017, he received his tenure appointment at Eawag.
Nicolas Derlon's personal webpage

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